

What is claimed is:

1. An integrated motor propulsor comprising:

a rotor having a plurality of rotor blades adapted to rotate about a center axis, each rotor blade radially extending to a terminus;

an outer ring in contact with at least one rotor blade terminus of said rotor;

a field means positioned on said outer ring;

a duct circumferentially disposed about said outer ring and in low friction contact with said outer ring;

a stator positioned in said duct encircling said outer ring to interact with said field means;

a plurality of pitch control apparatuses positioned in said duct; and

a plurality of outboard blades extending radially outward from said duct, each pivotally attached to one of said plurality of pitch control apparatuses.

2. The device of claim 1 further comprising:

a first slip ring joined to said rotor to allow electrical communication from the center axis to said rotor;

a second slip ring joined between said outer ring and said duct to allow electrical communication from said outer ring to the duct, said second slip ring being electrically joined to said stator and said plurality of pitch control apparatuses; and

means for electrical communication positioned in said at least one rotor blade in contact with said outer ring for electrically joining said first slip ring and said second slip ring.

3. The device of claim 2 further comprising at least one sensor positioned on said duct selected from the group consisting of speed sensors, flow velocity sensors, and environmental pressure sensors, said sensor being in electrical communication with said second slip ring.

4. The device of claim 2 wherein said field means is a permanent magnet.

5. The device of claim 2 wherein said field means is an electromagnet, said field means being electrically joined to said first slip ring.

6. The device of claim 1 further comprising a bearing positioned between said duct and said outer ring.

7. An integrated motor propulsor comprising:

a rotor having a plurality of rotor blades adapted to rotate about a center axis, each rotor blade radially extending to a terminus;

an outer ring in contact with at least one rotor blade terminus of said rotor;

a field means positioned on said outer ring;

a duct circumferentially disposed about said outer ring and in low friction contact with said outer ring;

a stator positioned in said duct encircling said outer ring to interact with said field means; and

a plurality of outboard blades extending radially outward from said duct.

8. The device of claim 7 further comprising:

a first slip ring joined to said rotor to allow electrical communication from the center axis to said rotor;

a second slip ring joined between said outer ring and said duct to allow electrical communication from said outer ring to the duct, said second slip ring being electrically joined to said stator; and

means for electrical communication positioned in said at least one rotor blade in contact with said outer ring for electrically joining said first slip ring and said second slip ring.

9. The device of claim 8 further comprising at least one sensor positioned on said duct selected from the group consisting of speed sensors, flow velocity sensors, and environmental pressure sensors, said sensor being in electrical communication with said second slip ring.

10. The device of claim 8 wherein said field means is an electromagnet, said field means being electrically joined to said first slip ring.

11. The device of claim 7 wherein said field means is a permanent magnet.